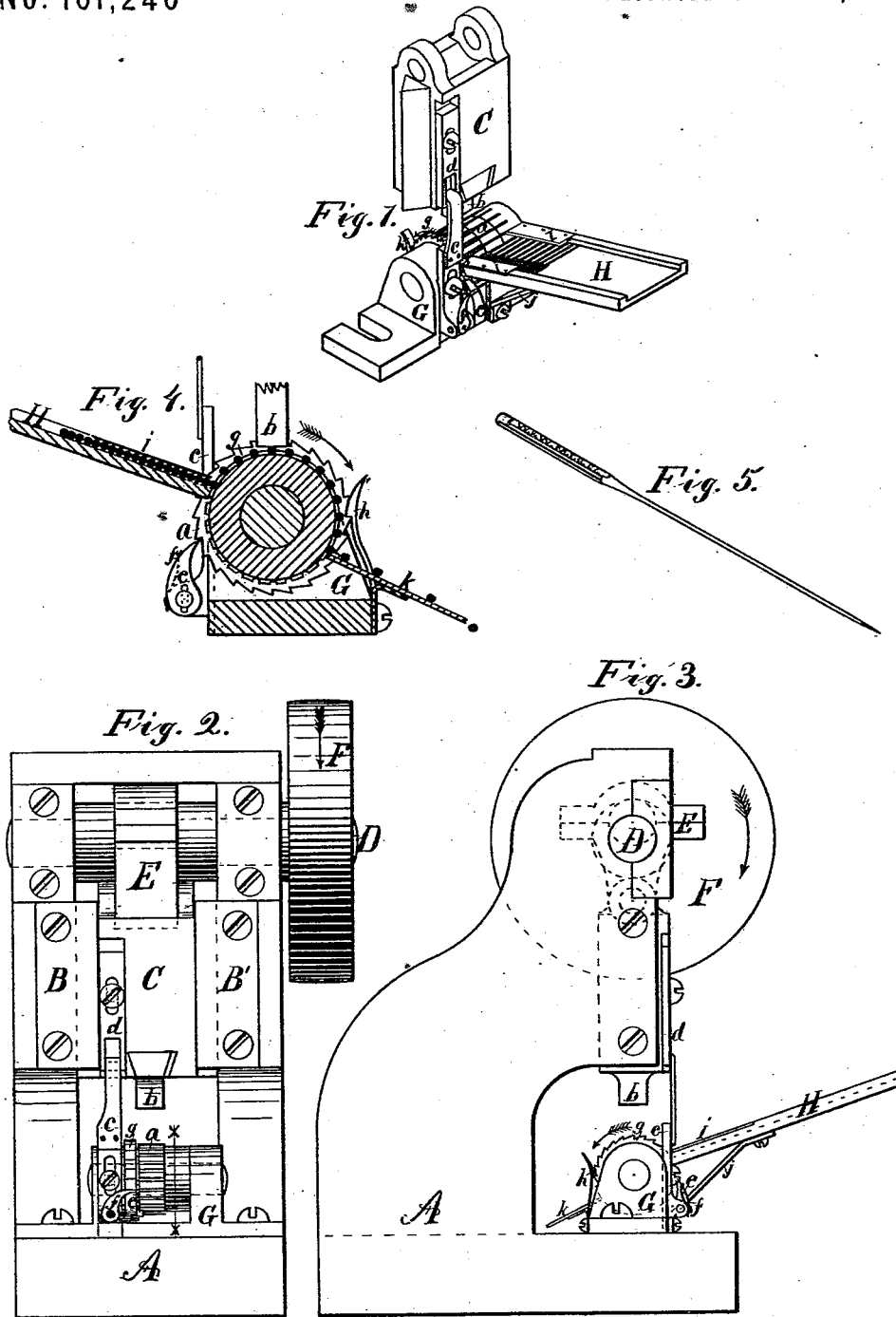


S. C. KINGMAN.
Machine for Flattening the Shanks of Machine
Needles.

No. 161,240

Patented March 23, 1875.



Witnesses;
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 Saml. C. Kingman.

UNITED STATES PATENT OFFICE.

SAMUEL C. KINGMAN, OF BRIDGEPORT, CONNECTICUT.

IMPROVEMENT IN MACHINES FOR FLATTENING THE SHANKS OF MACHINE-NEEDLES.

Specification forming part of Letters Patent No. 161,240, dated March 23, 1875; application filed February 19, 1875.

To all whom it may concern:

Be it known that I, SAMUEL C. KINGMAN, of Bridgeport, in the county of Fairfield and State of Connecticut, have invented a new and Improved Machine for Flattening the Shanks of Sewing-Machine Needles; and I do hereby declare the following to be a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, making a part of this specification.

In some classes of sewing-machine needles, particularly those termed curved needles, it is necessary to flatten the shanks upon one side in a certain position with respect to the curve and grooves in the blades of the same, in order to insure the proper position of said needles, when secured to the needle-arm of a sewing-machine, and my improvement consists in adopting certain devices, applying certain mechanical movements to a power-press, and controlling a quantity of needle-blanks in such a manner as to flatten the shanks of said needle-blanks with accuracy and rapidity.

I will now proceed to describe the construction and operation of my improved machine with reference to the accompanying drawings.

Similar letters of reference indicate corresponding parts.

Figure 1 is a perspective view of the working parts of my improved machine. Fig. 2 is a front elevation of the machine, with the hopper removed therefrom. Fig. 3 is a left-side elevation of the same, with the hopper attached thereto. Fig. 4 is an enlarged sectional view of the revolving die and die-seat through the line *a a*, Fig. 2, together with the working parts connected therewith. Fig. 5 is a perspective view of a needle-blank with the shank of the same flattened upon one side, in the manner and for the object above specified.

A is the bed and frame of the machine. B B' are gibs fitted to the front edges of the upright frame. C is a slide fitted to V-shaped grooves in the edges of the gibs. D is a shaft fitted to bearings in the upright frame. E is a connecting-bar, fitted at one end to an eccentric bearing on the shaft D, and the opposite end to the slide C. F is a pulley secured to the shaft D. G is a die-seat secured to the

bed of the machine. H is a hopper secured to the front side of the die-seat. *a* is an intermittingly-revolving die fitted to a pin or stud passing through the uprights on the die-seat G. *b* is the flattening-stamp fitted to the seat in the bottom of the slide C. *c* is a pawl-carrier fitted to slide in a groove on the front edge of one of the uprights of the die-seat G. *d* is an adjustable stop-bar fitted to a recess in the front edge of the slide C. *e* is a pawl pivoted to the side of the pawl-carrier *c*. *f* is a spring pressing upon the pawl *e*. *g* is a ratchet-wheel secured to the end of the die *a*. *h* is a spring-pawl secured to the back side of the die-seat opposite the ratchet-wheel *g*. *i i'* are plates secured to the top edges of the hopper H. *j* is a bracket for supporting the hopper H. *k* is an inclined table for receiving the flattened needle-blanks as they pass from the revolving die.

It is to be understood that a series of semicircular grooves are to be made on the surface of the revolving die *a*, corresponding in size to the diameter of the shanks to be flattened, and the top edge of the inclined surface of the hopper H, to be placed in such a position with respect to the surface of said die as to allow a blank which has been placed on the top surface of said hopper to pass into one of said semicircular grooves when said die is at rest, in the manner clearly shown in the enlarged sectional drawing of the die and hopper, Fig. 4.

I will now describe the practical operation of my improved machine, with reference to the accompanying drawings.

Motion being communicated to the driving-pulley F, a reciprocating motion is imparted to the slide C, by means of the connecting-bar E, and eccentric bearing on the revolving shaft D, said slide at the same time intermittingly revolving the die *a* by means of the adjustable bar *d*, pawl-carrier *c*, and pawl *e*. A quantity of blanks are now placed on the inclined surface of the hopper H, which pass successively from said hopper into the grooves on the surface of the revolving die *a*, as the latter is revolved, carrying said blanks under the stamp *b*, the shanks of the same being flattened when in this position by means of the pressure of said stamp during its extreme downward stroke

in the manner shown in the drawing, Fig. 4, after which said flattened blank is passed from under said stamp during the upward movement of the latter, and another blank brought in position for flattening, in the same manner as the preceding blank; and so on, repeating the movements and operations automatically until the supply of blanks in the hopper is exhausted, said flattened blanks in the meantime revolving with said die until they fall upon the inclined table *k*, in the manner shown in the drawing, Fig. 4.

The spring *f* is for the purpose of pressing the point of the pawl *e* between the teeth of the ratchet-wheel during the motion of the wheel and die; and the spring-pawl *h* is designed to retain said wheel and die in position when at rest during the flattening operation.

It should be noted that letters may also be impressed upon the flattened surface of the shank, simultaneously with the flattening operation, in the manner shown in the drawing of the needle, Fig. 5.

Thus, with my improved machine, I automatically flatten the shanks of a quantity of needle-blanks, with accuracy and rapidity.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. In combination with the revolving pulley F, revolving eccentric shaft D, connecting-bar E, reciprocating slide C, and flattening-stamp *b*, the adjustable bar *d*, pawl-carrier *c*, pawl *e*, spring *f*, ratchet-wheel *g*, semicircular grooved die *a*, die-seat G, and spring-pawl *h*, all constructed arranged and operated for the purpose of automatically flattening the shanks of a series of needle-blanks, substantially as and in the manner and for the object set forth.

2. The combination of the frame A, pulley F, shaft D, connecting bar E, reciprocating slide C, gibs B B', adjustable bar *d*, pawl-carrier *c*, pawl *e*, spring *f*, die *a*, ratchet-wheel *g*, spring-pawl *h*, and die-seat G, with the inclined hopper H, all constructed, arranged and operated substantially as and in the manner and for the object set forth.

SAML. C. KINGMAN.

Witnesses:

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